

CLAIMS

1. A liquid ejection apparatus comprising:

a liquid ejection head having a nozzle with an inner diameter of $15\mu\text{m}$ or less to eject droplets of charged solution onto a substrate;

an ejection voltage supply to apply an ejection voltage to a solution inside the nozzle;

a convex meniscus generator to form a state in which the solution inside the nozzle rises from the nozzle in a convex shape; and

an operation controller to control application of a drive voltage to drive the convex meniscus generator and application of an ejection voltage by the ejection voltage supply so that the drive voltage to the convex meniscus generator is applied in timing overlapped with the application of a pulse voltage as the ejection voltage by the ejection voltage supply.

2. The liquid ejection apparatus of claim 1, wherein the operation controller applies a voltage with reversed polarity to the ejection voltage just before or just after the ejection voltage is applied to the solution inside the nozzle.

3. The liquid ejection apparatus of claim 1 or 2, wherein the operation controller applies the drive voltage

to the convex meniscus generator in advance, and also in timing overlapped with the application of the ejection voltage by the ejection voltage supply.

4. The liquid ejection apparatus of any one of claims 1 to 3, wherein the liquid ejection head includes a plurality of nozzles each of which has the convex meniscus generator.